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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,021	03/11/2004	Dong-Won Park	ABS-1470 US	7575

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EXAMINER	
AMADIZ, RODNEY	
ART UNIT	**PAPER NUMBER**
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/799,021	PARK ET AL.	
	Examiner	Art Unit	
	Rodney Amadiz	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-17* is/are allowed.

6)☒ Claim(s) *1-3 and 12* is/are rejected.

7)☒ Claim(s) *4-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

2. Claim 1 is objected to because of the following informalities: Line 9 reads "the difference in the image data between frames, and suspending predetermined" which should read:

—the difference in the image data between frames, and suspending **a** predetermined—

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. Claims 1, 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konno et al. (USPGPUB 2003/0080932—herein referred to as "Konno") in view of Park (U.S. Patent 2001/0043181—herein referred to as "Park").

As to **Claim 1**, Konno teaches an apparatus for driving a liquid crystal display including a plurality of pixels arranged in a matrix, the apparatus comprising: a signal controller ***(Fig. 18, Reference Number 102)*** supplying the image data for the data driver ***(Fig. 18, Reference Number 107)***, determining whether image represented by the image data is motion image or still image based on the difference in the image data between frames, and suspending predetermined control operation if the image is

determined to be a still image ***(Pgs. 12-13, ¶'s 141-145)***. Konno, however, fails to teach a gray voltage generator generating a plurality of gray voltages and a data driver selecting data voltages from the gray voltages corresponding to image data and applying the data voltages to the pixels. Examiner cites Park to teach a gray voltage generator generating a plurality of gray voltages (Fig. 5, Reference Number 4) and a data driver selecting data voltages from the gray voltages corresponding to image data and applying the data voltages to the pixels ***(Fig. 5, Reference Numbers 1-5)***. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate a gray voltage generator and a data drive that selects voltages form the gray voltages as taught by ~~Konno~~ Park in the display device taught by Konno in order to provide gray-scale to the display.

As to **Claim 3**, Konno teaches the signal controller determining the image as a motion image when the number of the pixels having different image data between two adjacent frames or the number of the pixels having the difference in the image data between two adjacent frames larger than a predetermined value is more, than a predetermined number ***(Pg. 13, ¶ 145)***.

As to **Claim 12**, Konno teaches the signal controller further comprising a frame memory storing image data for at least one frame ***(Fig. 23, Reference Numbers 103A and 103B)***.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konno and Park as applied to claims 1 and 3 above, and further in view of (Applicant's Admitted Prior Art (herein referred to as "AAPA").

As to **Claim 2**, Konno, as modified by Park fails to teach the predetermined control operation including at least one of image data modifications that include DCC (dynamic capacitance compensation), ACCE (adaptive color contrast enhancement), and ACC (accurate color capture). Examiner cites AAPA to teach that it is well known in the art to use predetermined control operations that modify an image data such as DCC (dynamic capacitance compensation), ACCE (adaptive color contrast enhancement), and ACC (accurate color capture) ***(Pg. 1, lines 21-27)***. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the use of either one of DCC, ACC or ACCE as taught by AAPA in the display device taught by Konno and Park in order to improve the image deterioration due to the response delay ***(Pg. 1, lines 21-27)***.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Examiner cites the following references as pertinent to the disclosure due to their relevance with detecting still/motion images.

Fujiyoshi	U.S. Patent 6,211,854
Yamaguchi et al.	U.S. Patent 6,693,676
Sakashita et al.	U.S. Patent 6,828,986
Lee et al.	U.S. Patent 6,972,740
Kim et al.	U.S. Patent 7,081,906

Allowable Subject Matter

6. Claim 13 is allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: As for Claim 13, the above cited references have failed to teach or suggest, either alone or in combination: "generating a third comparison signal for each of first periods, the third comparison signal including pulses generated when the number of the counted pulses in the respective second comparison signals is larger than a second predetermined number; determining that image data for respective second periods following the first periods represent motion image when the respective number of the pulses included in the third comparison signals is larger than a third determined number, determining as still image if not; and suspending predetermined control operation if the image data represent still image."

8. Claims 4-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: As for Claim 4, the above cited references have failed to teach or suggest, either alone or in combination: "generating a third comparison signal for each of first periods, the third comparison signal having pulses generated when the number of the

counted pulses in the respective second comparison signals is larger than a second predetermined number; and a frame state detector determining that image data for respective second periods following the first periods represent motion images if the respective number of the pulses contained in the third comparison signals for the first periods is more than a third predetermined number and, that if not, the image data for the second periods represent as still images, and outputting an image type selection signal having a first state or a second state based on the determination."

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Amadiz whose telephone number is (571) 272-7762. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

R.A.
1/8/07
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